

There are a lot of choices and we're here to help. R/C Helicopters can be tough to get started in, but it is also one of the most rewarding, yet challenging hobbies you can have. With today's modern electronics and well designed kits, it has never been easier to get into this exciting hobby.

**The absolute best way to get started is with a [simulator](#).** There are several on the market, our favorite is the Real Flight G5. It is a window's based program that comes with an interlink transmitter that simply plugs into the USB port on your computer. You can check it out at [www.realflight.com](http://www.realflight.com). With this simulator, you can literally learn to fly (and crash) many different models of r/c helicopters, as well as airplanes and sailplanes. It's about \$200, which may seem expensive at first, but when you realize that each crash on your r/c model could cost \$50 or more, the value becomes much more apparent.



## Nitro or Electric?



Now you'll have to decide whether you like nitro or electric. There are some pre-built ready to fly models available from [E-Flite](#). They include everything needed to fly the model. They sell for around \$200, and can be a lot of fun. The [E-Flite Blade mCX2](#) is one that I recommend if you have never flown an r/c model and are not really sure if are going to enjoy the hobby. Besides learning, the [Blade mCX2](#) is a lot of fun in the winter time, when it's too cold to go outside. It can literally be flown in the living room. It is a coaxial design, which is extremely stable, and simple. It is not really a 3d helicopter, meaning it is not capable of aerobatics. [E-Flite](#) also sells the [Blade SR RTE](#), and the [Blade CP Pro2](#). These models are also available as ready to fly models. They are more conventional in design, meaning they have a main rotor, and a tail rotor. They are not easy to fly, and I usually don't recommend them as a first model, unless you've been practicing with a simulator.

Electric micro helicopters such as the [Trex](#), can be a great first model. These models are typically available as kits, or arf's (almost ready to fly). Just so you know, an ARF means that the airframe is mostly built, whereas a kit is completely un-built, and you will build it. Or if you like, you can call HeliProz and the guys there are usually willing to build a model for you (for a fee of course) though it isn't really a service that HeliProz provides. In the small electric category, this sometimes includes a motor and an electronic speed control. You'll also need a helicopter [transmitter](#), [servos](#), [gyro](#), [battery pack\(s\)](#) and [charger](#). You'll need some [basic tools](#) to build your model like screwdrivers, and allen wrenches. HeliProz also sells tools that are perfect for building your model. You can expect to spend \$800 to \$1200 on a model of this size.

Nitro models are another choice. Don't let the larger size and Internal Combustion engine scare you away. They are easier to work on and build due to their size, and are usually much more stable than the smaller electric models. Some examples are the [Thunder Tiger Raptor](#), [Miniature Aircraft](#), and Align Trex. Nitro models are available in several sizes. 30, 50, 60, and 90 size. The 30 and 50 sizes are nearly the same size, usually utilizing a nearly identical airframe, and the 60 and 90 size utilize a nearly identical size airframe. If you ask us, a 50 size model is about the perfect size for learning, and when you're a better pilot, you can do all the 3d aerobatics you can imagine. If budget is a concern, a 30 size model is a decent choice, though it won't have quite the power for hardcore 3d aerobatics. If you're not interested in 3d aerobatics, then a 30 is the most economical choice. An example of a 30 is the [Thunder Tiger Raptor 30](#). In a 30, you can usually get away with using cheaper servos, again keeping the costs down. A 60 size heli used to be the largest size of r/c helicopter, and is still a good choice if extreme 3d aerobatics are not what you're looking to do. They are more stable than the 30 and 50 size models, although only a few choices for 60's remain. The [Thunder Tiger Raptor 60](#) is one. The top class of R/C heli's is the 90 class. Some examples are the [Thunder Tiger Raptor 90](#), the [Hirobo Turbulence D3 90](#), the [JR Vibe 90SG](#), and several models from [Miniature Aircraft](#). We don't usually recommend a 90 as a first helicopter, as they can be quite a bit more expensive than the other sizes, and can be unforgiving if crashed. They also tend to use a bit more fuel than the smaller sizes.

## What Make And Model Is Best For Me?

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Once you have decided between nitro or electric, you may want to start looking at the different models. All the models we sell are high quality machines, and each has their strong points. Calling to speak to a HeliProz employee can help you to decide which model will suit your needs best. Again, we usually recommend starting with a small electric such as the [Trex](#), or [Mini Titan](#), or a 50 size nitro powered machine, like the [Raptor 50](#). There are a lot of different brands, and you should do some research and see what people in your area like, as they are usually willing to help you get started if they are familiar with your model! Another valuable resource can be the many online r/c helicopter forums. Some good ones are [www.runryder.com](http://www.runryder.com), and [www.helifreak.com](http://www.helifreak.com). If you're thinking of a Raptor, [www.raptortechnique.com](http://www.raptortechnique.com) can be very informative as well.

## Choosing A [Transmitter](#)

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So if you have decided on your model, you'll need to choose a [transmitter](#). Model Helicopters require a minimum of 6 channels. Again there are several different choices, and several different price ranges. We really like the new Spread Spectrum systems from [Spektrum](#), [Futaba](#), and



[JR](#). They are changing the way we participate in this hobby. These [radios](#) operate on 2.4 GhZ, and are not affected by, nor do they affect any other [radio](#) systems. So in short, you don't have to worry if someone at a nearby field will interfere with your model, and you won't interfere with theirs. Radios start at under \$200, and there is at least one model that is over \$2,000! Most people choose one in the \$300 to \$500 range, and never outgrow it. We usually recommend starting with a 7 channel model, as they typically have features not found on 6 channel models, plus if you decide to use a [governor](#) you will need that 7th channel! Also if you decide to get into a [scale helicopter](#), extra channels can be used to control retractable landing gear, lights, moving doors or just about anything you can think of.

## Servos and Gyros

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Every r/c model aircraft, airplane, sailplane, glider or helicopter requires the use of [Servos](#). [Servos](#) are an electronic devices that turn an electric signal in to mechanical



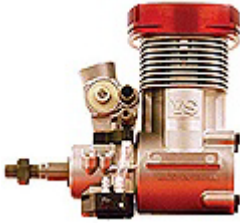
action. [Servos](#) are rated by torque and speed, and different models have different requirements for servos. In the case of r/c helicopters, the control the swash plate, the throttle, and the tail rotor pitch. Most electric helicopters require 4 [servos](#), three that control the swash plate, and one that controls the tail rotor pitch. It's almost always recommended to use 3 identical [servos](#) for swash plate control, and a high speed digital rudder [servo](#). [Servos](#) for small electric helicopters start at about \$25, and [servos](#) for nitro models start about \$40. Again the staff at HeliProz knows exactly what type of [servo](#) works best in a particular model, or size model.

R/C helicopters utilize a [gyro](#) to assist you in controlling the tail rotor. If you remember that "every action produces an equal and opposite reaction" from school, you'll realize what the tail rotor is for. It is for counteracting the torque of the main lift producing [rotor blades](#). There is tons of info available of how helicopters fly, so we won't get into that here, but if you are interested, just do some internet searches. Every time there is a change in pitch of the [main rotor blades](#), the helicopter ascends or descends. Each time that happens the amount of torque generated by the [rotor blades](#) change, and the tail rotor has to counteract this. Without a [gyro](#), it would be up to you to constantly counteract the torque by giving a rudder command. This made flying model heli's much more difficult than it is now, especially with the heading hold type [gyros](#) that are sold today. The heading hold [gyro](#) takes away a lot of work from the pilot, and allows you to focus on the other 8 functions you'll be controlling! Basically the heading hold [gyro](#) holds a constant "heading" until you the pilot gives a rudder command. VERY helpful!!! The most popular [gyro](#) is the [Futaba GY401](#) along with it's matching servo the [S9254](#). This is

available in a [combo](#) for less than \$200. There are other choices too, and they all essentially do the same thing.

## Engines, Motors and Mufflers!

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An [engine](#) or [motor](#) is what powers the model. There are less choices here, and we carry what we feel are the best available. Like mentioned before, [electric models](#) often include the motor. A nitro model requires an [engine](#), luckily there are not a ton of choices so it's easy. If your model is a 30 size, you get a 30 size [engine](#), 50 size? A 50 size [engine](#) is required. Stick with the correct [engine](#) for your model. A [muffler](#) is included in certain kits, and not in others. There are different choices, budget minded and performance minded. We are always happy to make suggestions on which [muffler](#) works best with a certain [engine](#). There are standard [mufflers](#), and there are high performance [mufflers](#). For most people, a standard [muffler](#) provides a great value. For you experts out there, the high performance [mufflers](#) can provide a boost in horsepower for the hard 3d moves!

## Main Blades / Tail Blades / Paddles

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All R/C helicopters require [blades](#). Some kits include them, and some do not. The types of [blades](#) that we carry are wood, fiberglass, and carbon fiber. [Wood rotor blades](#) are usually the best choice if you're just starting, because they are WAY less expensive than nice [Carbon fiber rotor blades](#). In case you didn't know, flying an R/C helicopter can take a lot of practice, and sometimes...there's a crash. The downside to wooden rotor blades is that they are more flexible, and almost always require balancing. (HeliProz sells balancers to make this much easier). [Fiberglass blades](#) are available for certain size helicopters, though they are less popular now since carbon fiber blades have become much more affordable. The Mavrikk line of [carbon fiber rotor blades](#) are a really good value and can also handle all the 3d maneuvers. Blade size usually is defined by engine size in nitro helicopters. A 30 size model typically uses 550mm blades, a 50 size helicopter typically uses 600mm blades, a 60/70 size helicopter uses 680mm blades and a 90 size helicopter uses 710mm blades. With today's new Electric helicopters there are some new sizes around. Electric helicopters have a different way of determining blade size. The 450 size (determined by motor size) usually uses a blade that is 315mm to 335mm in length. There are larger electric models as well, that use the same blades as the nitro models.



## Field Equipment - What You'll Need!

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If you have decided on a nitro heli or are thinking of one, you'll need to think about some [field equipment](#). [Field equipment](#) usually consists of a fuel pump, a glow igniter, a starter motor, and a starter wand. A nice all inclusive kit is made by Thunder Tiger called the [Carry Master](#). It has everything you need to start a typical 30 to 50 size helicopter. The only additional thing you might need is a starter wand for use on a model that doesn't have a one-way bearing in the clutch.

## **In Conclusion...**

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Learning to fly can be the most rewarding part of it all. It's challenging, but if you stick with it and take your time you'll get it. An option is to use a set of [training gear](#) such as the [RotoPod](#). It attaches onto the skids of the heli, and basically prevents it from tipping over quite so easily.

Now that you've read this, hopefully you want to get an R/C helicopter more than ever. If you have any questions give us a call. Everyone who answers the phone here at HeliProz builds and flies R/C helicopters. We're all into it, and remember what it was like when we were just starting out. We'll help you get set up right with the best helicopter for you that meets your budget and needs.

Thank you,

Heliproz Staff